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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,585	11/02/2001	Thomas R. Kurk	00W118	6594

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RAYTHEON COMPANY
C/O DALY, CROWLEY, MOFFORD & DURKEE, LLP
354A TURNPIKE STREET
SUITE 301A
CANTON, MA 02021

EXAMINER	
SAMS, MATTHEW C	

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/008,585	KURK ET AL.	
	Examiner	Art Unit	
	Matthew C. Sams	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action has been changed in response to the amendment filed on 7/11/2005.

2. The 35 U.S.C. 112 first paragraph rejection has been withdrawn due to the filed amendment of the specification.

Drawings

3. The drawings were received on 7/11/2005. These drawings are accepted.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5-7, 9, 10, 12, 18, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art, *BlueChip Communication AS BCC418 UHF transceiver reference manual rev. 1.0* (hereafter, *BlueChip Manual*) in view of Hareyama et al. (US-5,752,169 hereafter, Hareyama) and Iwasaki (US-5,612,532).

Regarding claim 5, *BlueChip Manual* teaches a bimodal power data link transceiver device including a transceiver integrated circuit with a phase locked loop (PLL) frequency synthesizer, a first power amplifier connected to the PLL frequency synthesizer and a receiver. (Page 1, Page 2, Fig. 3, and Page 8 [5.1] through Page 9 [5.1.3]) The *BlueChip Manual* teaches a transmit/receive switch coupled to the power amplifier and the receiver, a controller coupled to the transceiver IC, a loop filter, a direct digital frequency synthesizer and a partial voltage controlled oscillator coupled to the transmitter. (Fig. 3, Fig. 4, Page 8 [5.1.2] and Page 10 [5.1.7]) The *BlueChip Manual* differs from the claimed invention by not mentioning a second power amplifier coupled to the first power amplifier. However, Hareyama teaches an integrated circuit transmitter/receiver that includes two cascaded amplifiers. (Fig. 3 [44 & 45]) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the two-cascaded amplifiers of Hareyama with the transceiver device of the *BlueChip Manual*. One of ordinary skill in the art would have been motivated to do this since having a small power amplifier built into an integrated circuit might not give the amount of output required for transmitting the signal a required distance, but cascading a second dedicated external power amplifier would give the signal the required power. The *BlueChip Manual* in view of Hareyama teaches a bimodal power data link transceiver with two cascaded amplifiers and a partial voltage controlled oscillator (VCO), but differs from the claimed invention by not mentioning a first partial VCO connected to a second VCO. However, Iwasaki teaches an integrated transceiver on a chip (Fig. 8 [1]) containing inputs (Fig. 8 [4]) for an external VCO and an external

VCO (Fig. 8 [2c]). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the external VCO of Iwasaki into the bimodal power data link transceiver of the *BlueChip Manual* in view of Hareyama. One of ordinary skill in the art would have been motivated to do this since having a VCO allows for specifying a frequency for transmitting and receiving. (Col. 5 lines 57-65)

Regarding claim 6, the *BlueChip Manual* in view of Hareyama and Iwasaki teaches a PLL frequency synthesizer with a phase detector coupled to the loop filter (*BlueChip Manual* 5.1.1-5.1.3), a crystal oscillator coupled to the phase detector (*BlueChip Manual* Fig. 5) and a voltage controlled oscillator. (*BlueChip Manual* Fig. 4)

Regarding claim 7, the *BlueChip Manual* teaches a low noise amplifier, a quadrature mixer pair coupled to the low noise amplifier and the PLL frequency synthesizer with two quadrature signals, a demodulator, a first signal channel coupled to the first quadrature signal to the demodulator and a second signal channel coupled to the second quadrature signal to the demodulator. (Fig. 1 and Fig. 3)

Regarding claim 9, the *BlueChip Manual* teaches a transmit/receive switch comprising a plurality of diodes. (Page 1)

Regarding claim 10, the *BlueChip Manual* teaches a method of transceiving data in the radio frequency spectrum that comprises the steps of providing a transceiver integrated circuit with an oscillator input port including a partial voltage controlled oscillator, a frequency reference port, a radio frequency input port, a radio frequency output port and a phase detector output port. (Fig. 1 and Fig. 3) *BlueChip Manual* teaches of generating a voltage controlled oscillator signal for input to the oscillator port,

coupling a direct digital synthesizer to the frequency reference port, coupling the radio frequency output port to a power amplifier and coupling the radio frequency input port to a transmit/receive switch. (Fig. 1, Fig. 3 and Page 8 [5.1] through Page 11 [5.2.1]) The *BlueChip Manual* differs from the claimed invention by not mentioning a second power amplifier coupled to the first power amplifier. However, Hareyama teaches an integrated circuit transmitter/receiver that includes two cascaded amplifiers. (Fig. 3 [44 & 45]) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the two-cascaded amplifiers of Hareyama with the transceiver device of the *BlueChip Manual.* One of ordinary skill in the art would have been motivated to do this since having a small power amplifier built into an integrated circuit might not give the amount of output required for transmitting the signal a required distance, but cascading a second dedicated external power amplifier would give the signal the required power. The *BlueChip Manual* in view of Hareyama teaches a bimodal power data link transceiver with two cascaded amplifiers and a partial voltage controlled oscillator (VCO), but differs from the claimed invention by not mentioning a first partial VCO connected to a second VCO. However, Iwasaki teaches an integrated transceiver on a chip (Fig. 8 [1]) containing inputs (Fig. 8 [4]) for an external VCO and an external VCO (Fig. 8 [2c]). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to incorporate the external VCO of Iwasaki into the bimodal power data link transceiver of the *BlueChip Manual* in view of Hareyama. One of ordinary skill in the art would have been motivated to do this since having a VCO allows for specifying a frequency for transmitting and receiving. (Col. 5 lines 57-65)

Regarding claim 12, the *BlueChip Manual* teaches a step of generating a voltage controlled oscillator signal for input by coupling the phase detector output port to at least one loop filter and coupling at least one loop filter to at least one voltage controlled oscillator. (Page 11 [5.1.7.3] and Fig. 8)

Regarding claim 18, the *BlueChip Manual* teaches a method transceiving data in the device that comprises the step of modulating signals with frequency shift keying for transmission.

Regarding claim 20, the *BlueChip Manual* in view of Hareyama teaches a bimodal power data link transceiver device including a receiver and transmitter integrated circuit with a phase locked loop (PLL) frequency synthesizer. (Fig. 1 and Fig. 3) The *BlueChip Manual* teaches of generating a voltage controlled oscillator signal for input to the oscillator port, coupling a direct digital synthesizer to the frequency reference port. The *BlueChip Manual* in view of Hareyama teaches a partial voltage controlled oscillator. (Fig. 4)

Regarding claim 21, Hareyama teaches an integrated circuit transmitter/receiver that includes two cascaded amplifiers with the first amplifier coupled to the PLL frequency generator section and the second amplifier coupled to the first amplifier. (Fig. 3 [44 & 45])

Regarding claim 22, the *BlueChip Manual* teaches a low noise amplifier (Fig. 1 [29]), a quadrature mixer pair coupled to the low noise amplifier (Fig. 1) and a demodulator coupled to the quadrature mixer pair. (Fig. 1)

6. Claims 8, 11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *BlueChip Manual* in view of Hareyama as applied to claims 5 and 10 above, and further in view of Lemay, Jr. (US-6,392,486).

Regarding claim 8, the *BlueChip Manual* in view of Hareyama teach an integrated circuit transmitter/receiver that includes a controller and the limitations of claims 5 and 10 above, but differ from the claimed invention by not showing a field programmable gate array that controls the transceiver. However, Lemay, Jr. teaches a transceiver that includes a field programmable gate array (Fig. 3 [310]) for control. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to use the field programmable gate array of Lemay, Jr. for control of the integrated transmitter/receiver of *BlueChip Manual* in view of Hareyama because the field programmable gate array allows for configuration of the device to perform desirable signal and data processing functions. (Col. 4 lines 26-41)

Regarding claim 11, Lemay, Jr. teaches of a transceiver that includes a field programmable gate array to operate the transceiver. (Page 4 lines 26-41)

Regarding claim 13, Lemay, Jr. teaches a transceiver IC that has a microprocessor for controlling a voltage-controlled oscillator. (Fig. 2 [224 & 240], Fig. 3 [310] and Col. 4 lines 26-41)

Regarding claim 14, Lemay, Jr. teaches a transceiver IC that has a microprocessor for controlling a voltage-controlled oscillator for setting the center transmit frequency. (Col. 4 lines 20-26)

Regarding claim 15, Lemay, Jr. teaches a transceiver IC that has a step of coupling a microprocessor controller to the voltage-controlled oscillator that comprises modulating a transmit frequency. (Col. 4 lines 20-26)

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over the *BlueChip Manual* and Hareyama as applied to claim 10 above, and further in view of Duckworth et al. (US-5,619,190 hereafter, Duckworth).

Regarding claim 16, the *BlueChip Manual* in view of Hareyama teach the limitations of claim 10 including a bimodal power transceiver device adapted to transceiving data in the radio frequency spectrum. The *BlueChip Manual* in view of Hareyama differ from the claimed invention by not mentioning the transceiver operates at a carrier frequency less than 200 MHz. However, Duckworth teaches a transmitter with a carrier frequency signal of 200 MHz and has a sleep mode for power conservation. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to incorporate the carrier frequency signal of Duckworth with the bimodal power transceiver of the *BlueChip Manual* in view of Hareyama because the 200 MHz carrier frequency is well known to be used for broadcast television and can be used for sending transmissions over a long distance.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over *BlueChip Manual* in view of Hareyama as applied to claims 5 and 10 above, and further in view of Durec et al. (US-6,137,995 hereafter, Durec).

Regarding claim 17, *BlueChip Manual* in view of Hareyama teach a method of transceiving data in a device in the radio frequency spectrum, but differs from the

claimed invention by not showing operation with a global positioning indicator. However, Durec teaches an integrated transceiver circuit that operates with a global positioning system. (Col. 1 lines 11-13) At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to use the global positioning system of Durec into the integrated transceiver device of the *BlueChip Manual* in view of Hareyama because transceiver circuits are required to have a functioning global positioning device. (Col. 1 lines 11-13)

9. Claims 19 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *BlueChip Manual* in view of Hareyama as applied to claim 10 above, and further in view of Schmucker (US-3,945,008).

Regarding claim 19, the *BlueChip Manual* in view of Hareyama teach a method of transceiving data in the radio frequency spectrum but differ from the claimed invention by not showing that the transceiving data is in a landmine. However, Schmucker teaches a landmine that includes a transceiver. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to be motivated to use the landmine of Schmucker with the transceiver for use in the radio frequency spectrum of the *BlueChip Manual* in view of Hareyama because in order for the landmine to be effective, the proper time for detonation is required. (Col. 3 lines 6-47)

Regarding claim 23, the *BlueChip Manual* in view of Hareyama teaches a method of transceiving data in the radio frequency spectrum, but differ from the claimed invention by not showing that the transceiving data is in a weapon. However, Schmucker teaches a landmine that includes a transceiver. At the time the invention

was made, it would have been obvious to one of ordinary skill in the art to be motivated to use the landmine of Schmucker with the transceiver for use in the radio frequency spectrum of the *BlueChip Manual* in view of Hareyama because in order for the landmine to be effective, the proper time for detonation is required. (Col. 3 lines 6-47)

Regarding claim 24, Schmucker teaches the weapon as a landmine. (Col. 3 lines 6-15)

Regarding claim 25, Schmucker teaches the weapon as a sea mine. (Col. 3 lines 6-15)

Response to Arguments

10. Applicant's arguments with respect to claims 5-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Sams whose telephone number is (571)272-8099. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571)272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCS
10/3/2005

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600